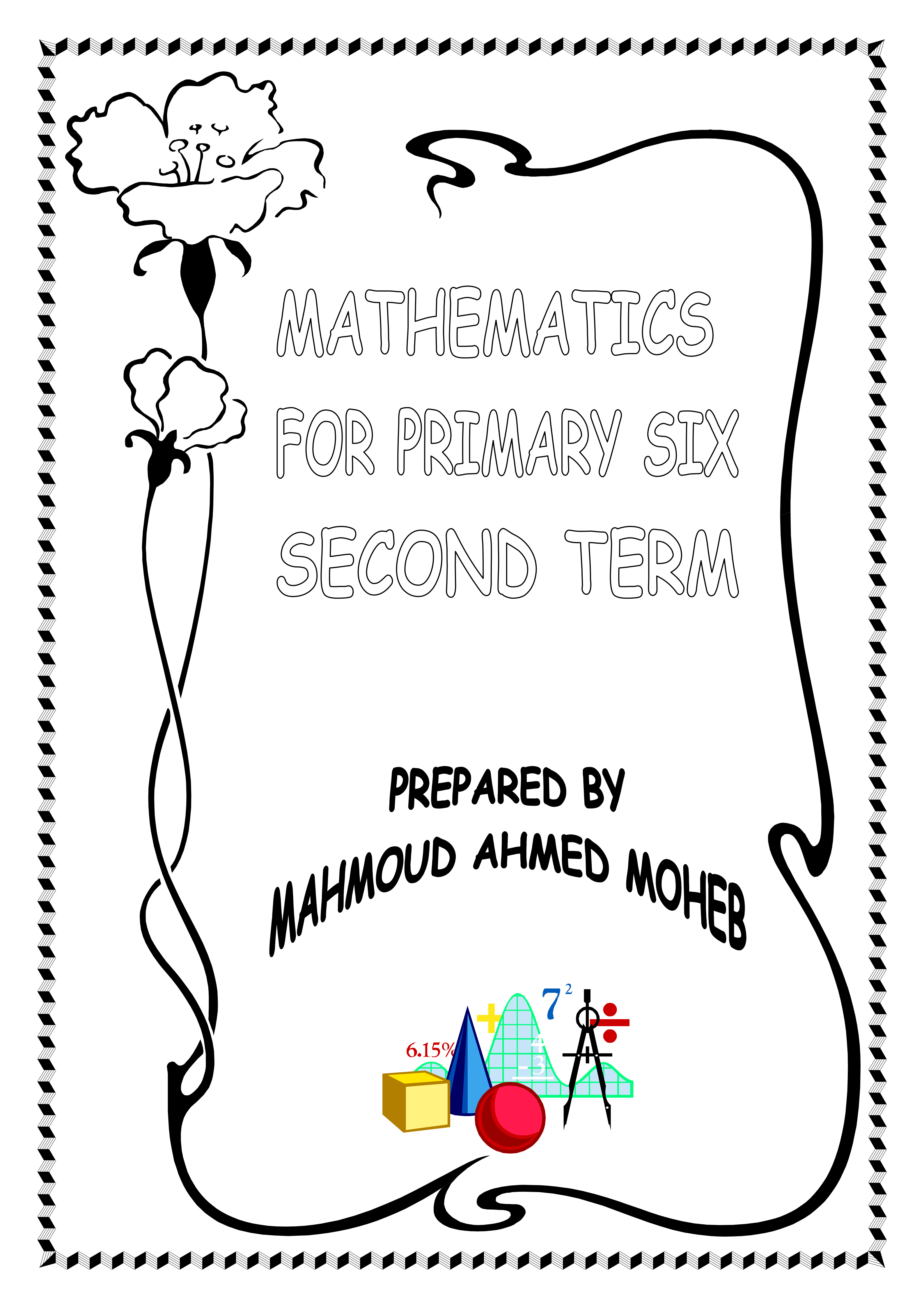
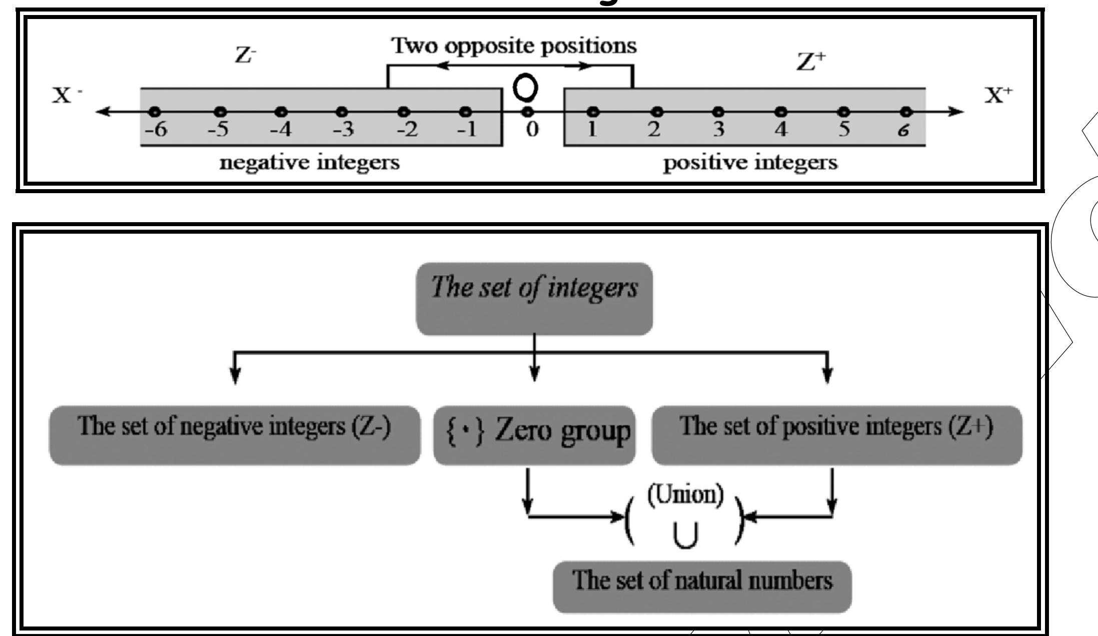

MATHEMATICS
FOR PRIMARY SIX
SECOND TERM
PREPARED BY
MAHMOUD AHMED MOHEB
6.15%
7²

SHEET (1)

The set of integers "Z"



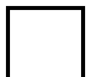
The absolute value of the integer (a) is the distance between the location of (a) and the location of Zero on the number line .
It is always positive and denoted by the symbol $|a|$

[1] Circle the integer number:

(1) 7 (2) $\frac{2}{5}$ (3) -10 (4) 0 (5) 1

(6) $\frac{10}{5}$ (7) -13 (8) 3.4 (9) $2\frac{1}{2}$ (10) $\frac{-12}{2}$

[2] Put the suitable sign ($\in$), ($\notin$), ($\subset$) or ($\not\subset$):

(1)	-3	☐	N	(2)	Z^-		Z
(3)	{1 , -3}	☐	N	(4)	$\lvert -31 \rvert$	☐	Z^-
(5)	$\frac{1}{8}$	☐	Z	(6)	$\{-2 , \frac{-2}{3}\}$	☐	Z
(7)	{-4}	☐	Z	(8)	0	☐	Z^+
(9)	N	☐	Z^+	(10)	$\frac{5}{12-7}$	☐	Z
(11)	$\left\lvert\frac{13-7}{2}\right\rvert$	☐	Z	(12)	$\{2 , -5 , \frac{2}{5}\}$	☐	Z

[3] Complete:

(1) $|-3| =$ ………

(2) If $|x| = 7$, then x = …… or ……

(3) $3 + |-3| =$ ……

(4) $Z^+ \cup \{0\} \cup Z^- =$ ……

(5) $Z^+ \cap Z^- =$ ……

(6) $Z = N \cup$ ……

(7) $Z - N =$ ……

(8) $Z^+ \cup \{0\} =$ ……

(9) Odd numbers ∪ even numbers = ……

(10) If $a = |-8|$, then a = ……

[4] Write an integer number to trpresent each situation:

(1) A tree is 4 m tall. (……………)

(2) A bank deposit of L.E. 700 (……………)

(3) Ali withdraws 500 pounds from his bank accountant. (……………)

(4) A loss of L.E. 2000 (……………)

(5) A profit of L.E. 5000 (……………)

(6) A gain of 8 points. (……………)

(7) A temperature is 5 °C above zero. (……………)

(8) A temperature is 4 °C below zero. (……………)

(9) 50 m above sea level. (……………)

(10) 13 m below sea level. (……………)

(11) He is swimming 3 m deep. (……………)

(12) A weight loss of 3 kg. (……………)

(13) A decrease of L.E. 600 (……………)

(14) An increase of L.E. 900 (……………)

(15) 3 steps forward. (……………)

(16) 5 steps backward. (……………)

[5] Write the opposite (inverse) of each integer:

(1) -3 ....

(2) 13 ....

(3) -115 ....

(4) 0 ....

(5) |-14| ....

(6) -23 ....

[6] Find the result:

(1) |-2| + 3 = ...

(2) |-100| - |100| = ...

(3) |-15| - |-5| = ...

(4) 9 + |-2| = ...

(5) |-2| × |-5| = ...

(6) |-35| ÷ |7| = ...

(7) |-10| × |4| = ...

(8) |-20| ÷ |-5| = ...

[7] Find the value of x:

(1) $|x| = 5$ ....

(2) $|x| = 14$ ....

(3) $|x| = 0$ ....

(4) $|-5| = x$ ....

(5) $|3| = x$ ....

[8] Find the value of x:

(1) $-5 \in \{ 7 , x , 4 \}$ ....

(2) $-3 \in \{ -1 , 5 , x \}$ ....

(3) $x \in \{ -6 \}$ ....

(4) $x \in \{ 2 , 5 \} \cap \{ 3 , 5 \}$ ....

(5) $|-3| \notin \{ x , -3 , 5 \}$ ....

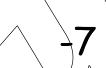
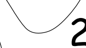
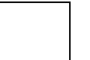
(6) $\{ 2 , x \} \cup \{ 1 , 2 \} = \{ 1 , 2 , 3 \}$ ....

SHEET (2)

Ordering and Comparing integers

[1] Find the result:

(1)	2	☐	-2	(2)	7	☐	9
(3)	-8	☐	5	(4)	-2	☐	0
(5)	-12	☐	-5	(6)	3	☐	-7
(7)	|-12|	☐	12	(8)	-|-10|	☐	2
(9)	-6	☐	-|-3|	(10)	-15	☐	|-2|
(11)	|-4|	☐	0	(12)	-100	☐	0

[2] Complete:

(1) The largest negative integer is ……………

(2) The smallest positive integer is ……………

(3) The number ……… is neither negative nor positive.

(4) The largest non-positive integer is ………

(5) The smallest non-negative integer is ………

[3] Choose the correct answer:

(1) The smallest positive number is ………
(a) 1 (b) -1 (c) ∅ (d) zero

(2) -7 ……… -|-9|
(a) > (b) < (c) = (d) ≤

(3) (-4) ……… |-4|
(a) > (b) < (c) = (d) ≤

(4) An integer included between -2 and 3 is ………
(a) -3 (b) -2 (c) -1 (d) 3

(5) The greatest negative integer is ……

(a) 0 (b) -1 (c) -100 (d) 1

(6) The number of integers between -2 and 3 is ………

(a) 2 (b) 3 (c) 4 (d) 5

(7) The integer number just before the number -3 is ………

(a) -4 (b) 4 (c) -2 (d) 2



[4] Arrange the following number in an ascending order:

(1) 6 , -60 , 2 , -22 and 0

……… , ……… , ……… , ……… and ………

(2) -6 , |-8| , -15 , 0 and 19

……… , ……… , ……… , ……… and ………

[5] Arrange the following number in a descending order:

(1) 14 , 16 , 0 , -17 and -19

……… , ……… , ……… , ……… and ………

(2) -9 , 0 , 7 , -15 and 12

……… , ……… , ……… , ……… and ………

[6] Complete in the same sequence:

(1) -4 , -3 , -2 , …… , …… , ……

(2) 3 , 2 , 1 , …… , …… , ……

(3) -2 , -4 , -6 , …… , …… , ……

(4) -2 , 0 , 2 , 4 , …… , …… , ……

(5) -30 , -25 , -20 , -15 , …… , …… , ……

(6) 9 , 7 , 5 , …… , …… , ……

[7] Write using the listing method the following sets:

(1) The set of integers greater than -3

……………………………………………………………………………

(2) The set of integers smaller than 1

……………………………………………………………………………

(3) The set of integers greater than -3 and smaller than 3

……………………………………………………………………………

(4) The set of integers between -3 and 2

……………………………………………………………………………

(5) The set of integers between -2 and 2

……………………………………………………………………………

(6) The set of integers smaller than 1 and greater than -5

……………………………………………………………………………

(7) The set of non-negative integers.

……………………………………………………………………………

(8) The set of non-positive integers.

……………………………………………………………………………

(9) The set of integers smaller than 3 and greater than -5

……………………………………………………………………………

(10) The set of integers greater than -3 and smaller than 4

……………………………………………………………………………

(11) The set of integers greater than or equals to -2

……………………………………………………………………………

SHEET (3)

Adding and subtracting integers

[1] Find the result:

(1) 5 + 2 = …………

(2) 4 + 2 = ………

(3) (-4) + (-2) = ………

(4) – 3 – 3 = ………

(5) (-2) + (-1) = ………

(6) (-10) + (-10) = ………

(7) – 7 – 3 = ………

(8) – 9 – 8 = ………

(9) 0 – (-3) = ………

(10) 19 – (-11) = ………

(11) 4 + (-3) = ………

(12) – 5 + 9 = ………

(13) 9 + (- 8) = ………

(14) 7 – 5 = ………

(15) (-3) – (-4) = ………

(16) 33 – (-11) = ………

(17) -7 + 4 = ………

(18) -4 + 4 = ………

(19) -10 + 2 = ………

(20) 0 + (-5) = ………

(21) (-6) + 0 = ………

(22) 0 – 7 = ………

(23) |-14| - |-28| = …………

(24) 0 + (-5) = ………

(25) (-73) – (-73) = ………

(26) 22 - |-10| = ………

(27) 5 + (-5) = ………

(28) (-12) + 12 = ………

[2] Complete:

(1) 4 + (-5) = (-5) + ………

(2) 6 + ……… = 0

(3) (-7) + ……… = 0

(4) (-8) + ……… = (-8)

(5) 6 + (-6) = ………

(6) 2 – (-3) = ………

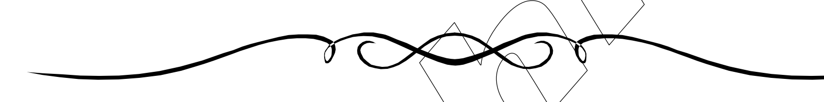
(7) The additive inverse of zero is …………

(8) The additive inverse of the number (-4) is ………

(9) The additive identity of integers is ……………

(10) The result of subtracting 7 from (-2) is ……………………………

(11) The result of subtracting (-5) from 3 is ……………………………



[3] Use the properties of addition in Z to find:

(1) (-5) + (-6) + 5

= ………………………………………

= ………………………………………

= ………………………………………

= ………………………………………

(2) (-17) + 19 + 17

= ………………………………………

= ………………………………………

= ………………………………………

= ………………………………………

(3) (-5) + 10 + (-2)

= ………………………………………

= ………………………………………

= ………………………………………

= ………………………………………

(4) 25 + (-8) + (-25) + 7

= ………………………………………………

= ………………………………………………

= ………………………………………………

= ………………………………………………

(5) 55 + (-255) + 45 + 255

= ....

= ....

= ....

= ....

(6) 2015 + 180 + (-2015)

= ....

= ....

= ....

= ....

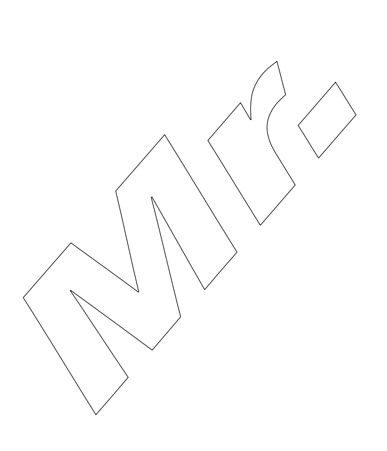
[4] If a = 3 , b = -4 and c = -2, then find the value of:

(1) a + b = ...

(2) b + c = ...

(3) a – b = ...

(4) a + b + c = ...



SHEET (4)

Multiplying and Dividing integers

The product of two positive integers = positive integer.
The product of two negative integers = positive integer
The product of two integers having different signs = negative integer

(+) × (+) = (+)   (-) × (-) = (+)   (-) × (+) = (-)   (+) × (-) = (-)

[1] Multiply:

(1) $3 \times 5 =$ ………

(2) $(-4) \times (-4) =$ ………

(3) $(-6) \times 2 =$ ………

(4) $0 \times (-10) =$ ………

(5) $(-9) \times 7 =$ ………

(6) $8 \times (-1) =$ ………

(7) $(-131) \times (-3) =$ ………

(8) $200 \times (-3) =$ ………

(9) $-(-3) \times (-2) =$ ………

(10) $|-3| \times |-5| =$ ………

(11) $|-10| \times |-2| =$ ………

(12) $-|-1| \times |-4| =$ ………

[2] Divide:

(1) $8 \div 2 =$ ………

(2) $(-64) \div 7 =$ ………

(3) $(-49) \div 7 =$ ………

(4) $(-36) \div (-4) =$ ………

(5) $0 \div 10 =$ ………

(6) $77 \div (-11) =$ ………

(7) $(-100) \div 25 =$ ………

(8) $(-18) \div (-3) =$ ………

(9) $(-18) \div 6 =$ ………

(10) $|-45| \quad |-5| =$ ………

(11) $18 \div (-2) =$ ………

(12) $-|-42| \div 6 =$ ………

[3] Complete:

(1) $(-8) \times 4 =$ ……… $\times (-8)$

(2) $(-16) \times$ ……… $= (-16)$

(3) ……… × (9 + 5) = (-4 × 9) + (-4 × 5)

(4) (-7) × ……… = 0

(5) (-9) ÷ 3 = ………

(6) 8 × ……… = (-48)

(7) ……… × 9 = (-45)

(8) (-18) ÷ ……… = (-9)

(9) If a × b = a, and a ≠ 0, then b = ………

(10) If a ÷ b = 1, then b = ………

(11) The additive neutral element in Z is ………, while the multiplicative neutral element in Z is ………

(12) The quotient of two integers having different signs in Z is a ………………… integer.

(13) The sum of two negative integers is a ……………………… integer, while the product of two negative integers is a ……………………… integer.

[4] Use the properties of multiplication of integers to find:

(1) 2 × 23 × 5

= ………………………

= ………………………

= ………………………

= ………………………

(2) 4 × (-5) × 3 × (-2)

= ………………………

= ………………………

= ………………………

= ………………………

(3) 50 × (-56) × 2

= ………………………

= ………………………

= ………………………

= ………………………

(4) 8 × 58 × (-125)

= ………………………

= ………………………

= ………………………

= ………………………

[5] Use the distributive property to find:

(1) $3 \times (-2) + 3 \times 5$

= ……………………………………………

= ……………………………………………

= ……………………………………………

(2) $(-5) \times (-6) + 2 \times (-6)$

= ……………………………………………

= ……………………………………………

= ……………………………………………

(3) $112 \times 17 + 112 \times (-17)$

= ……………………………………………

= ……………………………………………

= ……………………………………………

(4) $(-35) \times (-42) + (-35) \times 52$

= ……………………………………………

= ……………………………………………

= ……………………………………………

(5) 26×101

= ……………………………………………

= ……………………………………………

= ……………………………………………

= ……………………………………………

(6) 64×99

= ……………………………………………

= ……………………………………………

= ……………………………………………

= ……………………………………………

[6] If $x = 2$, $y = 1$ and $z = 5$ find the value of:

(1) $3x - 2y + z$

= ……………………………………………………………………

= ……………………………………………………………………

= ……………………………………………………………………

(2) $(10x \div z) - 3y$

= ……………………………………………………………………

= ……………………………………………………………………

= ……………………………………………………………………

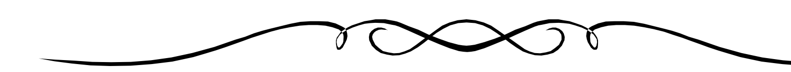
SHEET (5)

Repeated Multiplication

$2 + 2 + 2 = \ldots \times \ldots$

[1] Find the volume of a cube whose edge length is 2 cm.

$2 \times 2 \times 2 = 2^{\ldots}$ is read as ……………………………… or ………………………………



[2] Find the area of a square whose side length is 2 cm.

$2 \times 2 = 2^{\ldots}$ is read as ………………………………… or …………………………………



$2 = 2^{\ldots}$, $2^0 = \ldots$

Any number (except zero) of power zero equals to one

E = { 0 , 2 , 4 , 6 , 8 , 10 , … }

O = { 1 , 3 , 5 , 7 , 9 , 11 , … }

- ☞ $(-3)^2 = -3 \times -3 = \ldots$
- ☞ $(-3)^4 = -3 \times -3 \times -3 \times -3 = \ldots$
- ☞ $(-3)^3 = -3 \times -3 \times -3 = \ldots$
- ☞ $(-3)^5 = -3 \times -3 \times -3 \times -3 \times -3 = \ldots$
- ☞ $2 \times 2 \times 2 = 2^{\ldots}$
- ☞ $2^3 \times 2^5 = 2^{3+5} = 2^{\ldots}$
- ☞ $5^6 \times 5^3 = 5^{6+3} = 5^{\ldots}$
- ☞ $2^5 \div 2^4 = 2^{5-4} = 2^{\ldots}$
- ☞ $2^6 \div 2^4 = 2^{6-4} = 2^{\ldots}$

[3] Find the value of each of the following:

(1) 2^3 = ……… (2) 5^3 = ………

(3) $(-3)^3$ = ……… (4) $(-6)^3$ = ………

(5) $(-8)^0$ = ……… (6) $-(9)^3$ = ………

(7) $(-1)^{50}$ = ……… (8) $(-1)^{51}$ = ………

(9) 10^4 = ……… (10) -2^2 = ………

(11) $10 = 10^1$ (12) $100 = 10 \times 10 = 10^{\ldots\ldots}$

(13) $1000 = 10 \times 10 \times 10 = 10^{\ldots\ldots}$ (14) $10000 = 10 \times 10 \times 10 \times 10 = 10^{\ldots\ldots}$

(15) $2^3 \times 2^2$ = ……… (16) $(10)^3 \times (-10)^4$ = ………

(17) $(-5)^3 \times 5^2$ = ………… (18) $-(2)^4 \times 2^2$ = …………

(19) $7 \times 7^3 \times 7^2$ = ……… (20) $2^7 \div 2^5$ = ………

(21) $3^4 \div 3^3$ = ……… (22) $(-6)^5 \div (-6)^3$ = …………

(23) $(-5)^5 \div 5^3$ = ………… (24) $a^6 \div a^3$ = ………

[4] Find the value of each of the following:

(1) $2^3 \times 3^2$ = ……………………………………………………………

(2) $2^3 + 3^2$ = ……………………………………………………………

(3) $2^3 + 2^2$ = ……………………………………………………………

(4) $(-5)^2 \times 2^2$ = ……………………………………………………………

(5) $(-4)^3 \times (-1)^5$ = ……………………………………………………………

(6) $(-5)^3 \times (-1)^{17}$ = ……………………………………………………………

(7) $(-1)^{30} \times (-1)^{19}$ = ……………………………………………………………

(8) $3^2 + 3^2 + 3^2$ = ……………………………………………………………

[5] Find the value of each of the following:

(1) $\frac{5 \times 5^3}{5^4}$ = ...

(2) $\frac{7^4 \times 7^5}{7^7}$ = ...

(3) $\frac{(-3)^3 \times (-3)^4}{(-3)^5}$ = ...

(4) $\frac{3^2 \times (-3)^5}{3^4}$ = ...

(5) $\frac{(-3)^6}{(-3)^3} + \frac{(-4)^5}{(-4)^3}$ = ...

(6) $\frac{a^6 \times a^3}{a^5}$ = ...

(7) $\frac{x^8}{x^5 \times x^3}$ = ...

(8) $\frac{5^4 \times 3^3}{3^2 \times 5^2}$ = ...

(9) $\frac{(-2)^5 \times 3^7}{3^3 \times (-2)^3}$ = ...

(10) $\frac{x^5 \times y^6}{y^3 \times x^2}$ = ...

[6] Arrange in an ascending order:

(1) $(-2)^5$, $(-3)^4$, $(-4)^0$, $(-1)^{15}$, 3^2

....

....

(2) 2^3 , 3^2 , $(-2)^3$, $(100)^0$, $(-1)^5$

....

....

[7] Arrange in a descending order:

(1) $(-2)^3$, $(-2)^2$, $(-2)^0$, $(-1)^5$

……………………………………………………………………………………………

……………………………………………………………………………………………

(2) 10^2 , $(-1)^5$, 1000 , $(1000)^0$

……………………………………………………………………………………………

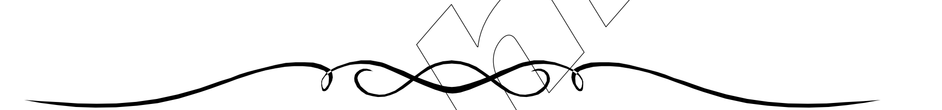
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[8] If a = 2 and b = -3, find the value of each of the following:

(1) $3\,a^2\,b$ = ……………………………………………………………………………………………

(2) $2\,a + 3\,b$ = ……………………………………………………………………………………



[8] Use the distributive property to find the value of:

(1) $(17)^2 + 17 \times 83$

= ……………………………………………

= ……………………………………………

= ……………………………………………

= ……………………………………………

(2) $33 \times 23 - (23)^2$

= ……………………………………………

= ……………………………………………

= ……………………………………………

= ……………………………………………

(3) $(27)^2 + 27 \times (-17)$

= ……………………………………………

= ……………………………………………

= ……………………………………………

= ……………………………………………

SHEET (6)

Numerical pattern

[1] Complete in the same pattern:

(1) 7, 10, 13, …… , …… , ……

(2) -10, -8, -6, …… , …… , ……

(3) -8, -5, -2, …… , …… , ……

(4) 2, 4, 8, 16, …… , …… , ……

(5) 3, 9, 27, …… , …… , ……

(6) 3, -6, 12, -24, …… , …… , ……

(7) 1, 4, 9, 16, 25, …… , …… , ……

(8) 1, 3, 6, 10, …… , …… , ……

(9) 1, 1, 2, 3, 5, 8, …… , …… , ……

(10) 2, 3, 5, 8, 13, …… , …… , ……

(11) 160, 80, 40, 20, …… , ……

(12) 1, 3, 7, 15, …… , …… , ……

(13) 8, 4, 2, …… , …… , $\frac{1}{4}$

(14) $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, …… , …… , ……

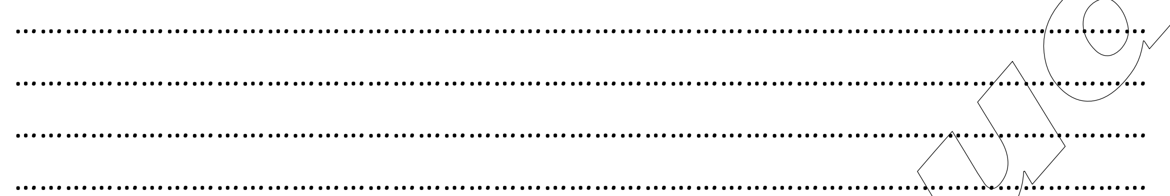
(15) $\frac{1}{3}$, $\frac{2}{3}$, 1, $\frac{4}{3}$, …… , …… , ……

SHEET (7)

Equations and inequalities

[1] Find the solution set of each of the following equations:

(1) $x + 7 = 10$ if the substitution set is { 1 , 3 , 5 }



....

....

....

....

(2) $x + 5 = 12$ if the substitution set is { 5 , 7 , 8 }

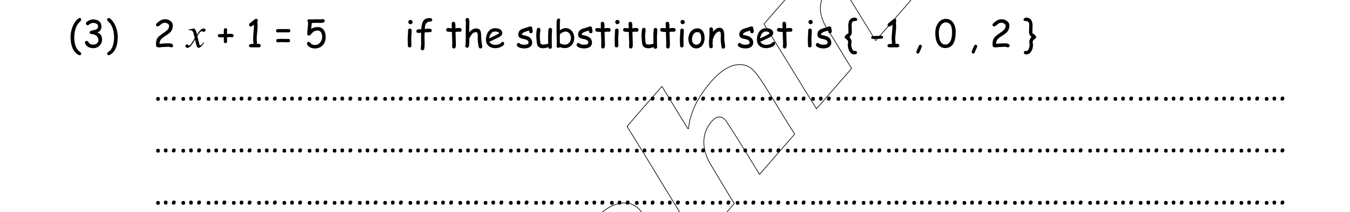
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(3) $2x + 1 = 5$ if the substitution set is { -1 , 0 , 2 }



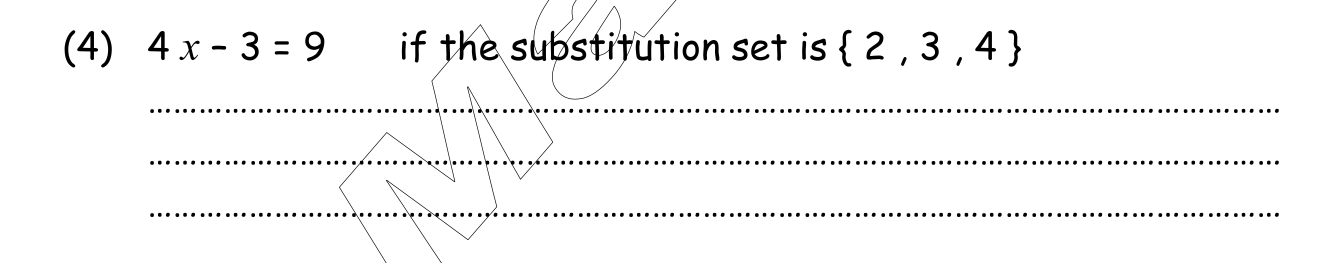
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(4) $4x - 3 = 9$ if the substitution set is { 2 , 3 , 4 }

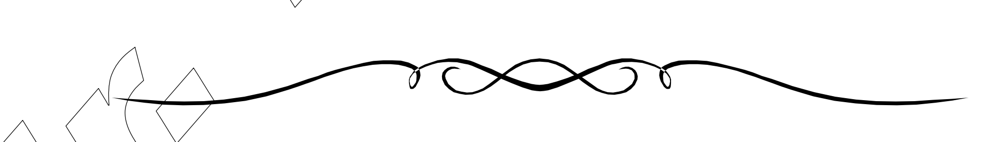


....

....

....

....



[2] Find the solution set of each of the following inequalities:

(1) $x + 3 < 5$ if the substitution set is { 0 , 1 , 2 }

....

....

....

....

(2) $x - 4 > 1$ if the substitution set is { 5 , 6 , 7 }

....

....

....

....

(3) $2x - 3 > 1$ if the substitution set is { 0 , 1 , 2, 3 }

....

....

....

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....

(4) $3x - 1 > -2$ if the substitution set is { -2 , -1 , 0 , 1 , 2 }

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(5) $-x + 1 < 4$ if the substitution set is { -3 , -2 , 0 , 2 , 3 }

....

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....

[3] Find the solution set of each of the following equations in N:

(1) $x + 3 = 7$

....

....

....

(2) $y + 8 = 19$

....

....

....

(3) $x - 9 = -5$

....

....

....

(4) $8x = 32$

....

....

....

(5) $3y = 27$

....

....

....

(6) $4x = |-8|$

....

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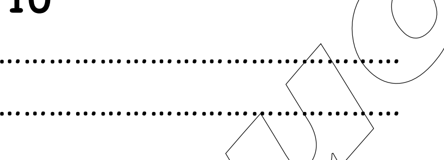
(7) $\frac{n}{3} = 5$

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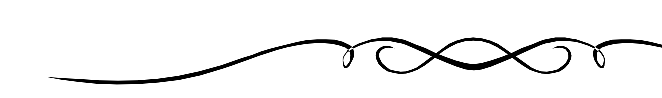
(8) $\frac{x}{10} = 2$



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[4] Find the solution set of each of the following equations in Z:

(1) $x - 3 = -7$

....

....

....

(2) $x + 8 = 0$

....

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....

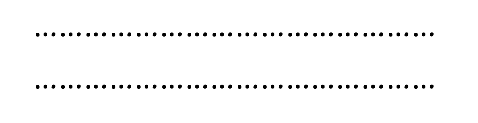
(3) $-4 + x = -8$

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(4) $m - (-3) = 1$

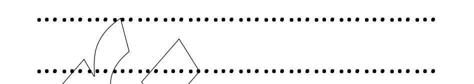


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(5) $5y = -35$

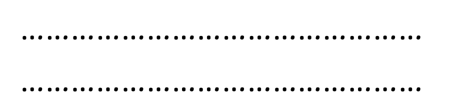


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(6) $-4x = -24$



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(7) $2 - x = 9$

....

....

....

(8) $7 - m = 12$

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....

[5] Find the solution set of each of the following equations:

(1) $3x - 2 = 7$, $x \in Z$

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....

....

(2) $4x + 1 = 17$, $x \in N$

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....

(3) $5x + 2 = -8$, $x \in N$

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....

(4) $2y + 16 = 2^4$, $y \in N$

....

....

....

....

....

(5) $\frac{y}{5} + 2 = -4$, $y \in N$

....

....

....

....

....

(6) $\frac{x}{2} - 4 = 7$, $x \in N$

....

....

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....

....

[6] Complete:

(1) If $3x - 3 = 12$, then $x =$ ....

(2) If $3y = 6$, then $5y =$ ....

(3) If $4x = 24$, then $\frac{x}{3} =$ ....

(4) If $x + 9 = 11$, then $7x =$ ....

(5) If $(x+1)$ is the additive inverse of (-2), then $x =$ ....

(6) The natural number just next to the number $x + 1$ is ....

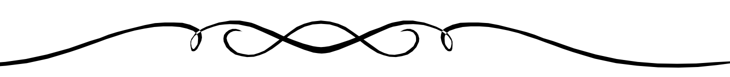
(7) The preceding integer number to the number $x - 1$ is ....

(8) Two successive odd numbers, the smaller one is x, then the greater is ....

(9) Two successive even numbers, the greater is $x + 3$, then the smaller is …………

(10) The age of Ahmed now $3x$ years, then his age 3 years ago was ……

(11) The age of Ali now x years, then his age after 3 years is ………



[7] Find in N the solution set:

(1) $x - 3 < 1$

………………………………………………
………………………………………………
………………………………………………

(2) $x + 2 > 5$

………………………………………………
………………………………………………
………………………………………………

(3) $x + 4 > 1$

………………………………………………
………………………………………………
………………………………………………

(4) $x - 4 \leq -1$

………………………………………………
………………………………………………
………………………………………………

(5) $m - 5 \geq \left| -7 \right|$

………………………………………………
………………………………………………
………………………………………………

(6) $19 < a + 14$

………………………………………………
………………………………………………
………………………………………………

(7) $-1 \geq x + 3$

………………………………………………
………………………………………………
………………………………………………

(8) $4k \geq -16$

………………………………………………
………………………………………………
………………………………………………

(9) $-2y < -14$

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………………………………………………
………………………………………………

(10) $-3x \geq -15$

………………………………………………
………………………………………………
………………………………………………

[8] Find the solution set of each of the following inequalities:

(1) $2x + 1 < 7$, $x \in N$

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(2) $2x - 3 < 5$, $x \in Z$

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(3) $4x + 2 \geq -10$, $x \in Z$

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....

....

....

....

(4) $4x + 1 < 13$, $x \in Z$

....

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....

(5) $9 - 6x < 15$, $x \in Z$

....

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....

....

(6) $1 + 2x \leq -3$, $x \in N$

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....

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....

....

(7) $1 - 8x < 33$, $x \in Z$

....

....

....

....

....

(8) $1 - 3x > 7$, $x \in N$

....

....

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....

....

[6] Complete:

(1) If $x > y$, then $x + z$ .... $y + z$

(2) If $x > y$, then $x - z$ .... $y - z$

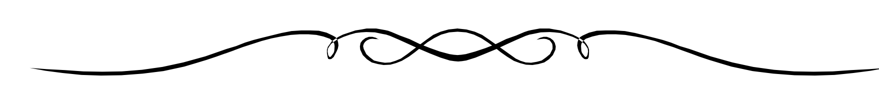
(3) If $x > y$ and z positive, then $x z$ .... $y z$

(4) If $x > y$ and z negative, then $x z$ .... $y z$

(5) The S.S. of $2x - 3 < 5$ in Z is …………………

(6) The S.S. of $1 - x > 4$ in N is …………………

(7) The S.S. of $-2 < x \le 0$ in N is …………………



[7] Choose:

(1) The number that satisfies the inequality $x > -2$ is ………
(a) -1 (b) -4 (c) -3 (d) -2

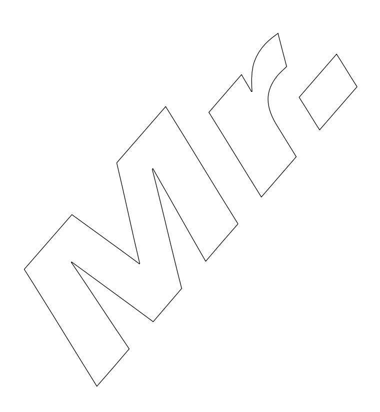
(2) The S.S. of the inequality $4 - x > 3$ in Z^+ is ………
(a) {0, -1, -2, …} (b) {0, 1, 2, …} (c) {0} (d) $\varnothing$

(3) The S.S. of the inequality $-2x < 0$ in Z is ………
(a) $\varnothing$ (b) N (c) Z^- (d) Z^+

(4) If $x \in N$, then the S.S. of inequality $-x > 3$ is ………
(a) {4, 5, …} (b) {-4, -5, …} (c) {-3} (d) $\varnothing$

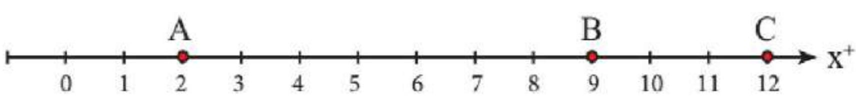
(5) The S.S. of the inequality $-1 \le x < 1$ in Z is ………
(a) {-1, 0} (b) {0, 1} (c) {0} (d) {1}

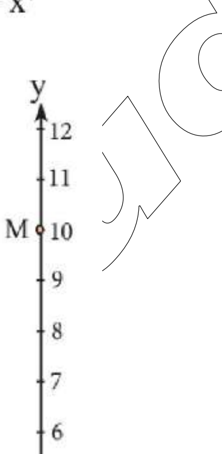
(6) If $x > 5$, then $-x$ …… -5
(a) > (b) $\ge$ (c) $\le$ (d) <



SHEET (8)

Distance between two points in the coordinate plane





The points A, B and C represent the numbers 2 , 9 and 12 respectively.
The distance between the two points A and B is :
Length of $\overline{AB}$ = coordinate of the ending point – coordinate of the starting point.
= 9 – 2 = 7 cm.



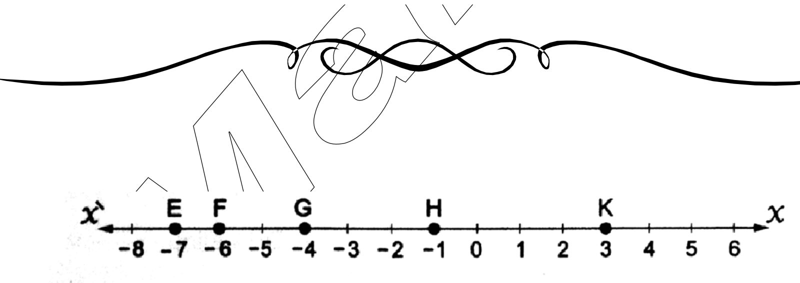
y: 12, 11, M 10, 9, 8, 7, 6, 5, N 4, 3, 2, 1, 0

Complete :

AC = ……. - …….. = …….. cm.

BC = …….. - …….. = …….. cm.

NM = …….. - …….. = …….. cm.



x' E F G H K x

−8 −7 −6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6

EF = ……………………………………………………………………

EK = ……………………………………………………………………

FK = ……………………………………………………………………

EG = ……………………………………………………………………

FG = ……………………………………………………………………

GK = ……………………………………………………………………

EH = ……………………………………………………………………

FH = ……………………………………………………………………

HK = ……………………………………………………………………

(1) In the opposite coordinate plane : ABCD is a rhombus.

(a) Complete the coordinates of the following points :

A (…… , ……) , B (…… , ……)

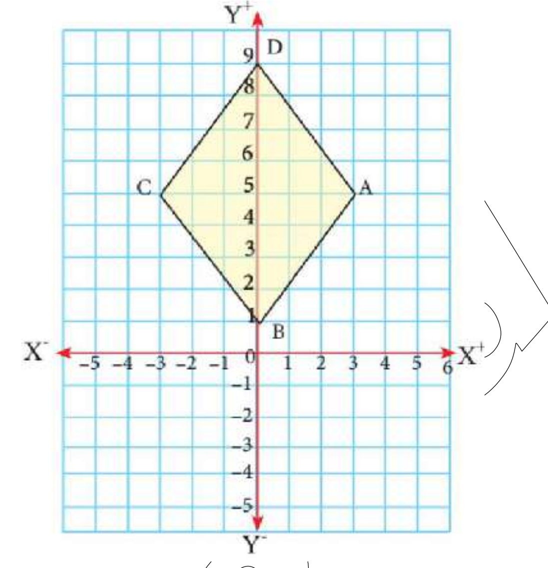
C (…… , ……) , D (…… , ……)

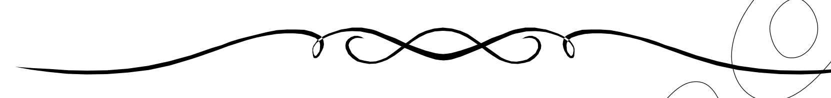
(b) The area of the rhombus ABCD can be calculated by using the length of its perpendicular diagonals, where :

the length of $\overline{AC}$ = …………,

the length of $\overline{BD}$ = …………

Surface area of the rhombus = …………





(2) In the opposite coordinate plane :

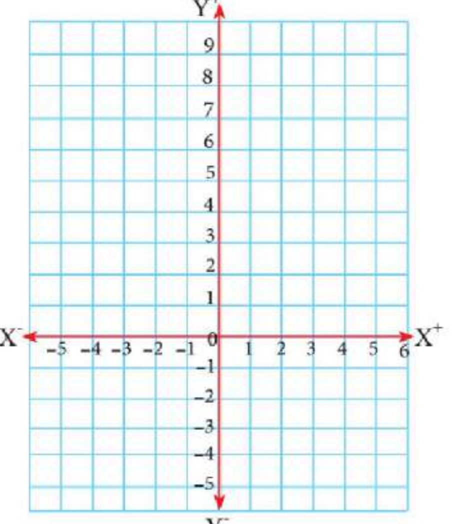
(a) Determine the position of the following points :

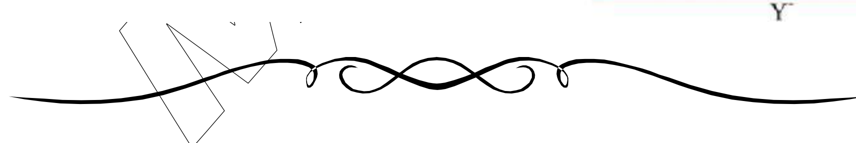
L (-1 , 1) , M (1 , 1)

N (1 , 8) , E (-1 , 8)

(b) Find the perimeter and the area of the shape LMNH.

(c) Determine whether the shape is symmetric or not ? Why ?





In the cartesian co-ordinates plane opposit The figure ABCD is a parallelogram

First : Complete the co-ordinates points :

A (………. , ……….) , B (………. , ……….)

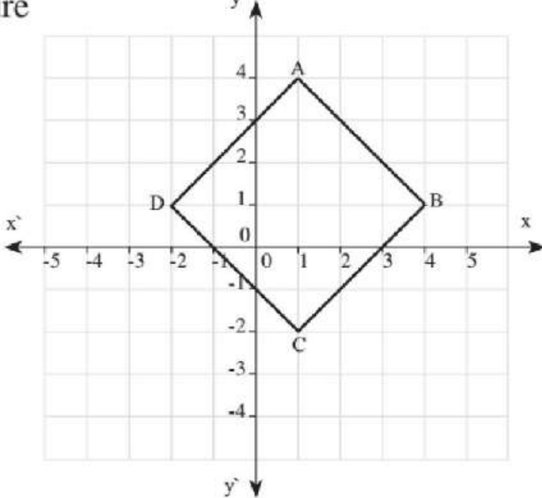
C (………. , ……….) , D (………. , ……….)

Second : The length of $\overline{AC}$ = ……….

The length of $\overline{BD}$ = ……….

Third : The name of the figure ABCD is ……….

Fourth : The area of the figure ABCD =…. cm^2



SHEET (9)

Geometric transformations (Translation)

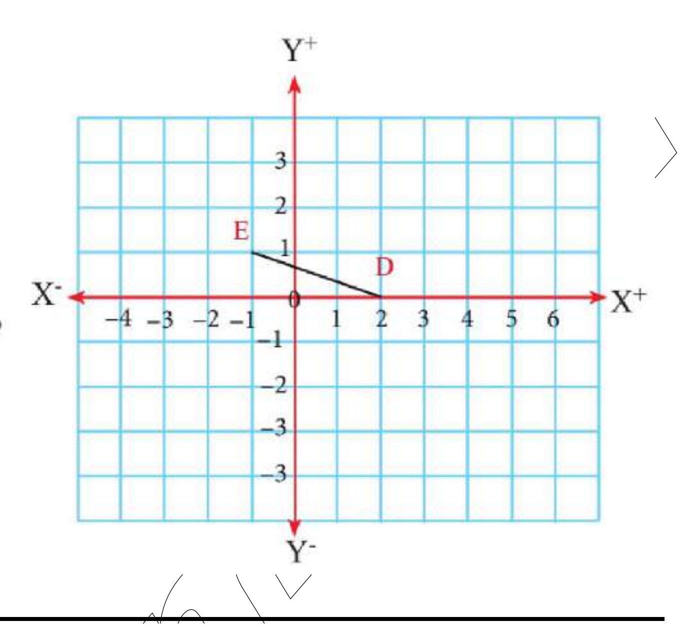
(4) In the opposite coordinate plane :

Determine the following :

a) The image of $\overline{DE}$ where D (2 , 0)

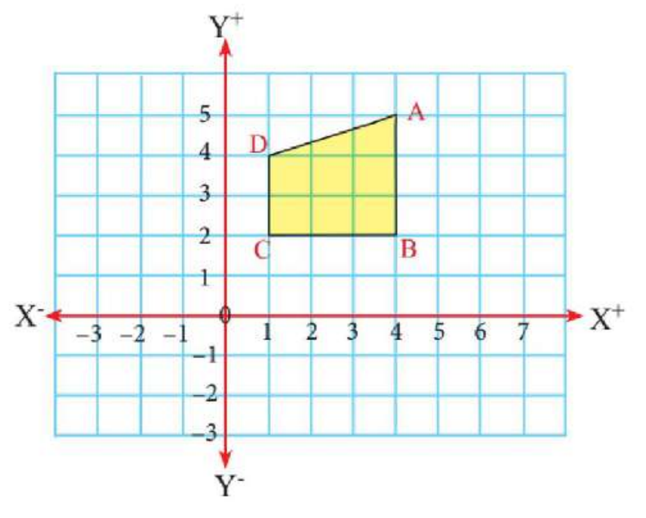
E (-1 , 1) by translation (x + 3 , y + 2)

What is name of the shape DD′E′E? Why ?

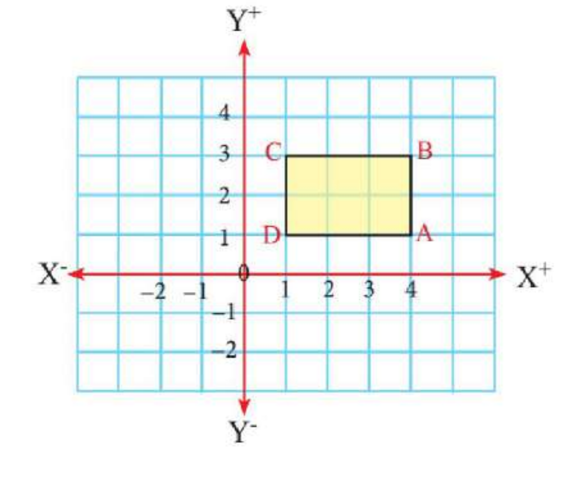


b) The image of the quadrilateral ABCD

by translation (3 , -4).



c) On a square Lettice, draw the rectangle ABCD where: A (4,1) , B (4,2) , C (1,3), D (1,1) Then find its image by the translation (x + 3, Y + 3).



Complete each of the following :

a The image of the point (2 , 5) by translation

$(x , y) \longrightarrow (x + 2 , y + 1)$ is ....

b The image of the point (3 , 2) by translation

$(x , y) \longrightarrow (x + 3 , y - 2)$ is ....

c The image of the point (– 5 , 4) by translation

$(x , y) \longrightarrow (x + 4 , y - 5)$ is ....

d The image of the point (– 1 , 3) by translation (2 , – 3) is ....

e The image of the point (0 , 5) by translation (– 2 , 1) is ....

f The image of the point (– 2 , – 5) by translation

$(x , y) \longrightarrow (x - 2 , y)$ is ....

g The image of the point (3 , – 2) by translation

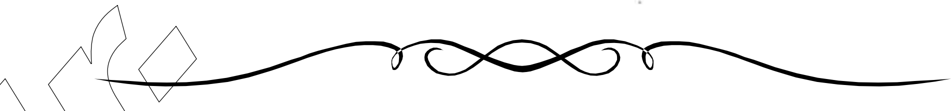
$(x , y) \longrightarrow (x , y + 3)$ is ....

h The image of the point   by the translation

$(x , y) \longrightarrow (x - 2 , y + 3)$ is (7 , 4)

i If the image of the point (3 , 2) is the point (6 , 1) , then the translation rule is $(x , y) \longrightarrow$ (........ , ...)

j The image of the point A (3 , 6) by translation 3 units in the negative direction of x-axis is ....



Choose the correct answer :

a The image of the point A (1 , 2) by translation (1 , – 1) is ....

[a] (2 , 1) [b] (2 , 3) [c] (1 , 1) [d] (1 , 3)

b The image of the point A (– 4 , 3) by translation (– 1 , – 4) is ....

[a] (– 5 , – 7) [b] (– 5 , – 1) [c] (– 7 , 3) [d] (– 3 , – 1)

c The image of the point (5 , 0) by translation (1 , – 5) is ....

[a] (– 5 , 6) [b] (6 , – 5) [c] (0 , 1) [d] (1 , 0)

d The image of the point $(3, -2)$ by translation $(-3, 2)$ is ....

[a] $(0, 0)$ [b] $(2, 0)$ [c] $(3, 0)$ [d] $(6, 4)$

e The image of the point $(3, -2)$ by translation $(4, 2)$ is ....

[a] $(-7, 0)$ [b] $(7, 0)$ [c] $(-1, 4)$ [d] $(1, 7)$

f If (x, y) is the image of the point $(3, -2)$ by translation $(1, 3)$, then the point $(x, y) =$ ....

[a] $(2, 1)$ [b] $(2, 4)$ [c] $(1, 4)$ [d] $(4, 1)$

g The image of the point $(4, 7)$ by the translation $(x, y) \longrightarrow (x + 1, y - 2)$ is the point ....

[a] $(5, 9)$ [b] $(3, 5)$ [c] $(5, 5)$ [d] $(5, 7)$

h The image of the point $(-1, 2)$ by translation of magnitude of 3 units in the positive direction of the x-axis is ....

[a] $(-1, 5)$ [b] $(2, 2)$ [c] $(-2, 2)$ [d] $(-1, 3)$

i The image of the point $(-3, 4)$ by translation of magnitude of 4 units in the negative direction of the y-axis is ....

[a] $(-3, 0)$ [b] $(-7, 4)$ [c] $(-3, 8)$ [d] $(-1, 4)$

j If $\grave{A}(3, -3)$ is the image of A by translation $(x, y) \longrightarrow (x - 1, y - 4)$, then the point A is ....

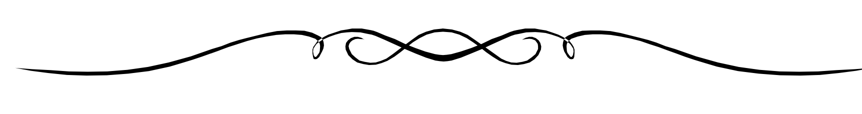
[a] $(2, -7)$ [b] $(4, 1)$ [c] $(-4, -1)$ [d] $(2, 1)$

k The image of the point $(2, -1)$ by translation of magnitude 3 units in the positive direction of y-axis is ....

[a] $(2, 2)$ [b] $(5, -1)$ [c] $(5, 2)$ [d] $(2, -4)$

l The image of the point $(3, 0)$ by translation of magnitude 3 units in the negative direction of x-axis is ....

[a] $(0, 0)$ [b] $(3, 3)$ [c] $(3, -3)$ [d] $(0, -3)$



Choose the correct answer :

a) The image of the point (-1,2) by translation of magnitude of 3 units in the positive direction of the x-axis is ....

[(-1,5) , (2,2) , (-2,2) , (-1,3)]

b) The image of the point (-3,4) by translation of magnitude of 4 units in the negative direction of the y-axis is ....

[(-3,0) , (-7,4) , (-3,8) , (-1,4)]

c) The image of the point (3,5) by translation (x + 2 , y - 1) is ....

[(5,6) , (5,4) , (1,4) , (1,6)]

d) The image of the point (......... , ...) by translation (x -3 , y + 4) is (-5, -3)

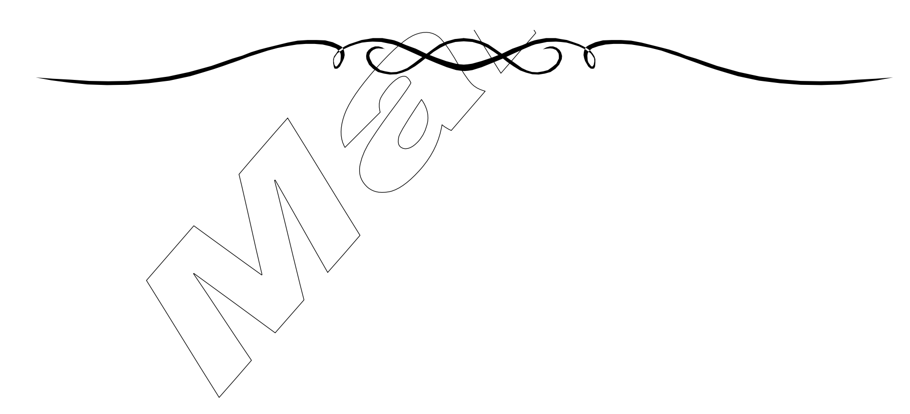
[(- 8,15) , (-2,7) , (-8,7) , (-2,-7)]

e) The image of the point (8, -10) by translation (-3,4) is ....

[(5, -6) , (5, -14) , (11, -6) , (11, -14)]

h The image of the point (1, -3) by translation (......... , ...) is (1,0)

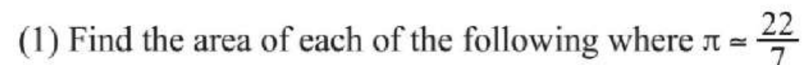
[(1, 0) , (0, 0) , (3, 0) , (0, 3)]



SHEET (10)

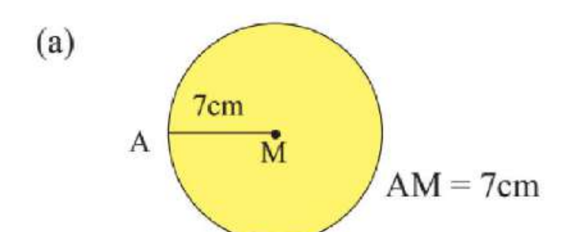
Area of the circle

The surface area of the circle $= \pi r^2$

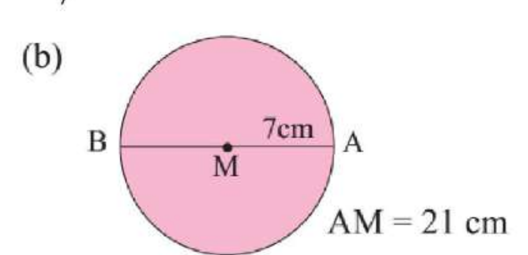


(1) Find the area of each of the following where $\pi \simeq \frac{22}{7}$

(a)



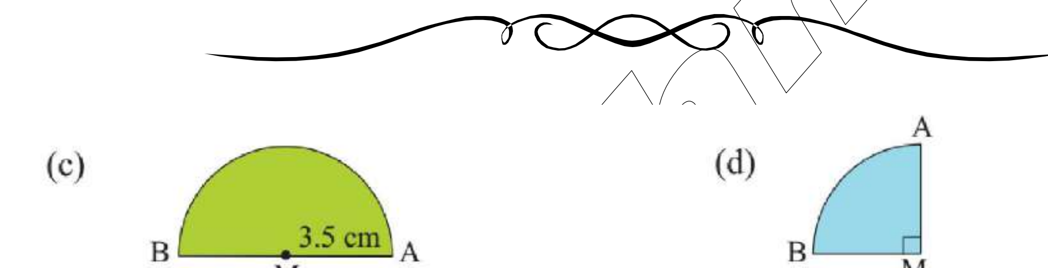
(b)



....

....

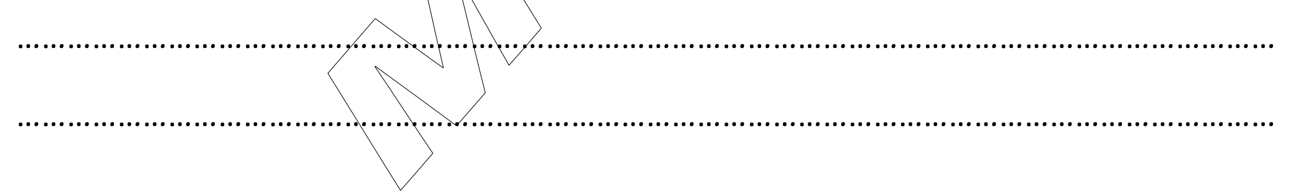
(c)



(d)



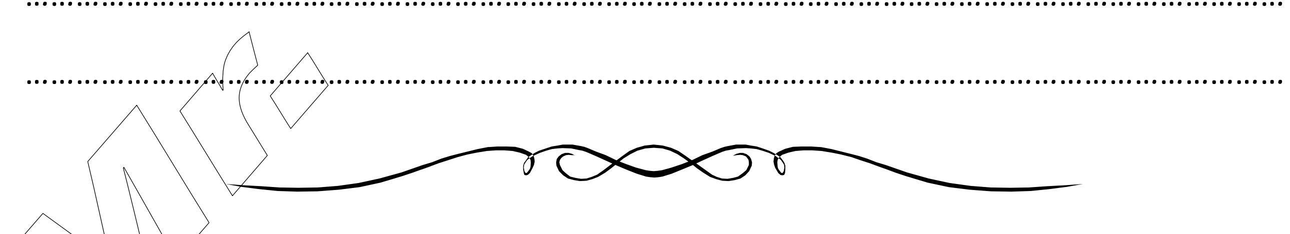
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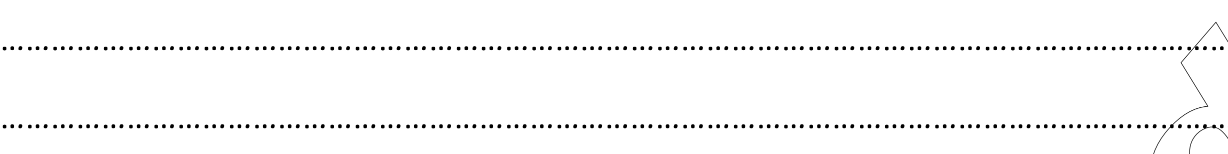
(2) A circle its diameter is 12 cm, calculate its surface area where

$(\pi \simeq \frac{22}{7}$ or $3.14)$

....

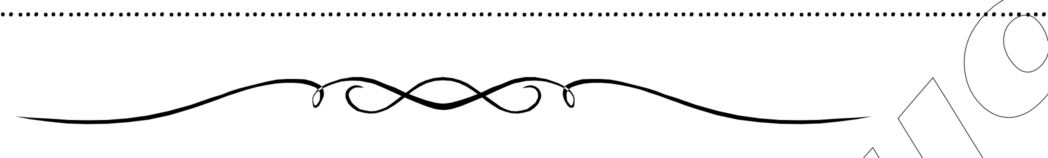
....

(4) A circle its circumference is 62.8 cm. Calculate its surface area. $(\pi \simeq \frac{22}{7})$



....

....



Find the area of the following circles where $\pi \simeq 3.14$

a r = 8 cm. area = ...

....

b d = 16 cm. area = ...

....

c r = 5 km. area = ...

....

d d = 21 m. area = ...

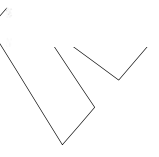
....

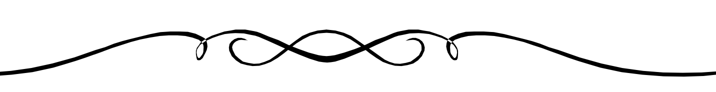
e r = 6.3 mm. area = ...

....

f d = 28 km. area = ...

....





Choose the correct answer :

a 🕮 The area of the circle = ………

[a] πr [b] πr^2 [c] $2 \pi r$ [d] $2 \pi r^2$

b A circle , its diameter length is 8 cm. , its area = ……… cm^2.

[a] 8π [b] 64π [c] $16 \pi^2$ [d] 16π

c The circumference of a circle is 44 cm. , then the length of its diameter is ……… cm. ($\pi = \frac{22}{7}$)

[a] 14 [b] 22 [c] 44 [d] 154

d The area of the circle with diameter of length 7 cm. equals ………cm^2.

[a] 49π [b] $49 \pi^2$ [c] 14π [d] 12.25π

A circle its circumference is 14π m. calculate its area.

……………………………………………………………………………………

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A circle its circumference is 62.8 cm. calculate its area where $\pi = 3.14$

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A circle its circumference is 57 cm. calculate its area.($\pi = \frac{22}{7}$)

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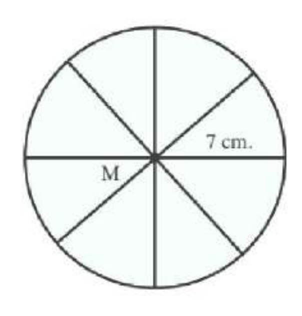
A circle of radius length 7 cm

is divided into 8 equal circular sectors

<u>First</u> : Find the area of one circular sector

<u>Second</u> : the measure of the central angle of the sector.

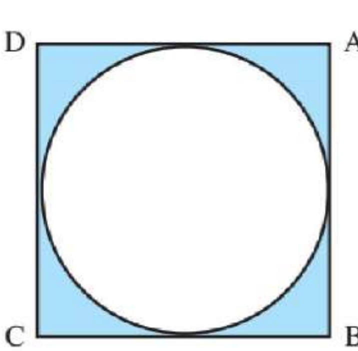
(consider $\pi = \frac{22}{7}$)



A square of side length 20 cm.

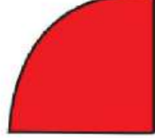
Then the area of the shaded part in cm^2 equals.

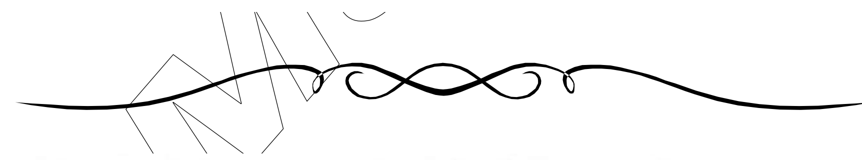
(consider $\pi = 3.14$)



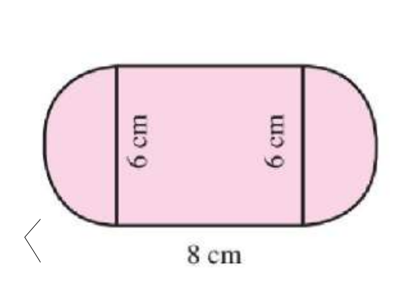
The apposite fgure represents the quarter of a circle of radius length 2 cm.

Then its perimeter in cm equals.

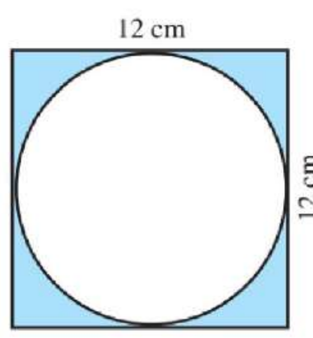


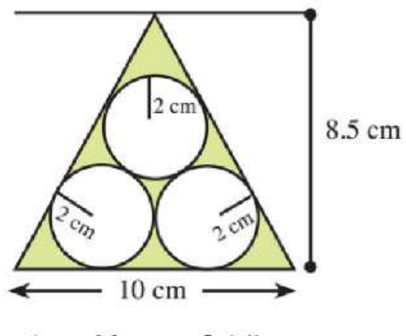


Find the area of the shaded part in each of the following figures:



(consider $\pi = 3.14$)





(consider $\pi = 3.14$)

SHEET (11)

L.S.A. and T.S.A. for each of cube and cuboid

* The lateral area of the cuboid = Perimeter of the base x height
* The total area of the cuboid = The lateral area + Area of the two bases.

(1) The perimeter of the base of a cuboid is 24 cm and its height is 10 cm. Find the lateral surface area. ……………………………………………

(2) If the lateral area of a cuboid is 120 cm^2 and the perimeter of its base is 20 cm. Find its height. ……………………………………………………

(3) A cuboid its length is 6 cm, its width is 4 cm and its height is 5 cm. find: (a) its lateral area. (b) its total area.

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(4) A cuboid of length 6 cm, width 4 cm and height 10 cm. find its lateral area.

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(5) A cuboid of length 7cm, width 3cm and height 8 cm. find its total area.

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(6) If the lateral area of a cuboid is 120 cm2 and the dimensions of its base are 4 cm and 6 cm. Find its height.

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……………………………………………………………………………………

(7) A cuboid of a square base with side length 8 cm and its height is 10 cm find: (a) its lateral area. (b) its total area.

....

....

....

....

(8) A case in the shape of cuboid its base is a square of side length 6 cm and its height is 10 cm find: (a) its lateral area. (b) its total area.

....

....

....

....

(9) A cuboid whose total area is 132 cm^2 and its lateral area is 112 cm^2 Find the area of its base.

....

....

(10) If the lateral area of a cuboid is 60 cm^2 and its base area is 8 cm^2. Find its total area.

....

....

(11) The lateral area of cuboid = ... × ....

(12) The total area of cuboid = ... + ...

The Cube has :

12 Edges

8 Vertices

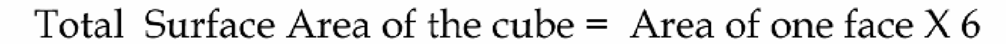
6 Faces

Lateral Surface Area of the cube = Area of one face X 4

L . S . A. of the cube = Area of one face X 4

L . S . A. of the cube = edge X edge X 4

Area of one face = L. S. A. ÷ 4



Total Surface Area of the cube = Area of one face X 6

T. S. A. of the cube = Area of one face X 6

T. S. A. of the cube = edge X edge X 6

Area of one face = T. S. A. ÷ 6

L. S. A. : T. S. A.

Face area X 4 : Face area X 6

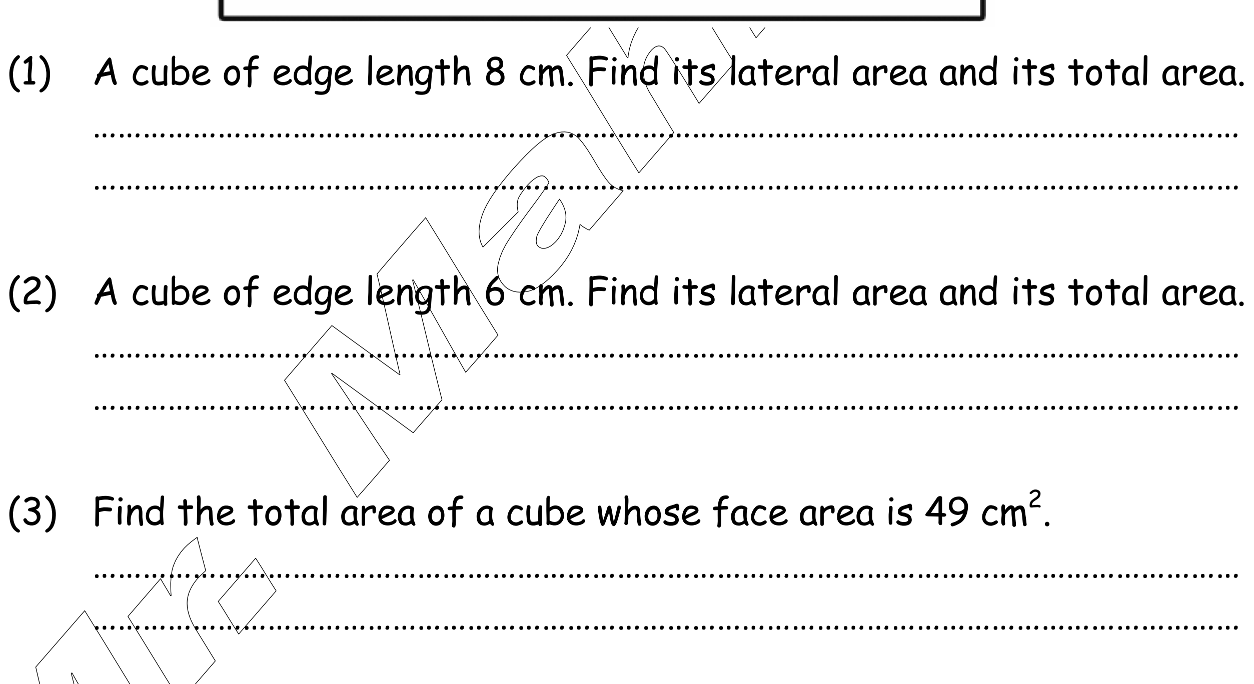
4 : 6 ÷ 2

2 : 3

(1) A cube of edge length 8 cm. Find its lateral area and its total area.

....

....



(2) A cube of edge length 6 cm. Find its lateral area and its total area.

....

....

(3) Find the total area of a cube whose face area is 49 cm^2.

....

....

(4) If the area of one face of a cube 36 cm^2. Find its lateral area.

....

....

(5) If the lateral area of a cube is 36 cm^2. Find its total area.

……………………………………………………………………………………………………

……………………………………………………………………………………………………

(6) Find the lateral area of a cube whose total area is 48 m^2.

……………………………………………………………………………………………………

……………………………………………………………………………………………………

(7) The sum of the edge lengths of a cube equals 72 cm, then edge length of the cube = ……………… cm

(8) If the perimeter of one face of a cube is 12 cm. Find its total area

……………………………………………………………………………………………………

……………………………………………………………………………………………………

(9) A cube of total area 150 cm^2. Find its edge length.

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(10) If the lateral area of a cube is 64 cm^2. Find its volume.

……………………………………………………………………………………………………

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(11) If the volume of a cube is 1000 cm^3. Find its total area.

……………………………………………………………………………………………………

……………………………………………………………………………………………………

(12) If the total area of a cube is 216 cm^2. Find its lateral area and its volume.

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(13) A cube of edge length 8 cm. Find the ratio between its lateral area and its total area.

....

....

....

....

A room its length is 5m, its width is 4m, and its height is 3.2m. It is wanted to paint its lateral walls and ceiling. The cost price of one square meter is LE 8. Calculate the required cost. Knowing that the room has 2 windows and a door their areas are $8m^2$.

....

....

....

....

<u>**Complete:**</u>

(1) The ratio between area of one face of a cube and its latera area is ……… : ………

(2) The ratio between area of one face of a cube and its total area is ……… : ………

(3) The ratio between the lateral area and the total area of a cube is ……… : ………

(4) If the ratio between the edge length of three cubes is 1 : 2 : 3 then the ratio between their lateral areas is …… : …… : ……

SHEET (12)

Representing data by using the circular sectors

Study the figure well, then complete the following:

- The ratio of the members who prefer the football is ....
- The ratio of the members who prefer the handball is ....
- The ratio of the members who prefer the tennis is ....
- The ratio of the members who prefer the basketball is ....
- The ratio of the members who prefer athletics is ....
- If the number of the club members is 2000, how many members prefer the handball?

Five friends shared in a commercial business, with a capital LE 60 000, the first paid LE 12000, the second paid LE 6000, the third paid LE 15000, the fourth paid LE 9000, the fifth paid the remainder, illustrate that by using the circular sectors.

The following table shows the percentage of egg production in three farms, a marchent collected these eggs to distribute it on the grocery stores, represent these data by using the circular sectors.

The farm	Frist	Second	Third
The percentage of the production	25%	35%	40%

8 - The following table shows the favourite TV programmes which the pupils of one of the classes in the primary six watch as the following.

Kind of programme	Entertaining	Cultural	News	Drama	Sports
Number of hours	9	5	4	7	11

Represent these data by using the circular sectors, then answer the following questions:

What is the programmes that the most of pupils prefer, also the least of pupils prefer?

SHEET (13)

The random experiment

The random experiment : It is an experiment in which we can determine all its possible outcomes before carrying it, but we can't predict in certainty which of these outcomes will occur when the experiment is carried out.

Sample space (outcomes) The set of all possible outcomes for a random experiment.

(1) A box contains 9 equals cards having the same colour and numbered from 1 to 9. Write the sample space for this experiment. ....

(2) If the random experiment of visiting one of your relative to know the gender of his newly-born child. Write the sample space of this experiment. ....

(3) In the experiment of tossing a regular coin and observing the appearing face. The set of sample space S = ... and n(S) = ...

(4) The sample space for tossing a coin twice = ...

(5) The sample space for rolling a dice once = ...

The probability

Event : Any outcomes you can get inside a random experiment are called events.

The event : It is a subset of the set of sample space, the number of its elements represents number of times of its occurrence.

The ratio between the number of elements of an event and number of elements of the sample space is called the probability of occurrence of the event, more abbreviation : (probability of the event and is denoted by "p").

$$P(A) = \frac{n(A)}{n(S)}$$

Complete:

a The probability of the impossible event = ...
and the probability of the certain event = ...

b For every event A , we find that .... ≤ P (A) ≤ ....

c If a fair coin is tossed once , thent he probability of appearance of a head = ...

d 10 cards are numbered from 1 to 10 A card is drawn randomly , then the probability that the card carries an odd number = ...

e A box contains 5 white balls , 7 red balls and 3 blue. If a ball is drawn from the box randomly , then the probability that the drawn ball is blue = ...

f In the experiment of throwing a fair die and observing the number on the upper face , then the probability of getting a number less than 1 equals ....

g A box contains 48 oranges , 4 of them are bad. If we draw an orange at random , then the probability that the drawn orange is bad = ...
and the probability that it is not bad = ...

h If the probability of the occurrence of an event is $\frac{5}{8}$, then the probability of the non-occurrence of this event is ....

i A room has 3 doors numbered from 1 to 3 , one student goes out from one door. The probability that he goes out from the door number 2 is ....

j A letter is selected randomly from the word "SAMEH" , then the probability of selecting the letter E is ....

Choose:

a Which of the following is the probability of occurrence of an event ? ....

[a] 1.2 [b] – 0.4 [c] 315 % [d] 75 %

b As throwing a fair die once , the probability of appearance of a number greater than 4 is ....

[a] $\frac{1}{6}$ [b] $\frac{1}{3}$ [c] $\frac{1}{2}$ [d] 1

c A basket contains cards numbered from 1 to 20 , if a card is drawn randomly , what is the probability that the number written on it is divisible by 6 ? ....

[a] $\frac{3}{20}$ [b] $\frac{4}{20}$ [c] $\frac{5}{20}$ [d] $\frac{6}{20}$

d A bag has 5 red balls and 3 white balls. If the balls are similar and a person draws a ball randomly , then the probability that the drawn ball is white = ...

[a] $\frac{3}{5}$ [b] $\frac{3}{8}$ [c] $\frac{5}{8}$ [d] $\frac{5}{3}$

e 📖 If a die is rolled once , then the probability of getting a number > 6 = ...

[a] $\varnothing$ [b] zero [c] $\frac{1}{6}$ [d] $\frac{1}{3}$

f A class has 25 boys and 20 girls. A pupil of them is selected randomly , then the probability that the pupil is a girl = ...

[a] $\frac{1}{20}$ [b] $\frac{4}{9}$ [c] $\frac{1}{25}$ [d] $\frac{5}{9}$

g If a die is tossed once , then the probability of getting a number satisfying the inequality : $2 < x < 3$ equals ....

[a] $\frac{1}{2}$ [b] $\frac{1}{3}$ [c] $\frac{1}{4}$ [d] zero

h 📖 In the experiment of rolling a die once , if A is the event of getting a number less than 4 , then P (A) = ...

[a] $\frac{5}{6}$ [b] $\frac{2}{3}$ [c] $\frac{1}{2}$ [d] $\frac{1}{6}$

i If the probability of success of a student is 70 % , then the probability of his failure = ...

[a] 0.7 [b] 0.07 [c] 0.3 [d] 0.03

54) In an experiment of throwing a fair die once. If A is the event of appearing a number less than 4 then P (A) = ...

(a) $\frac{5}{6}$ (b) $\frac{2}{3}$ (c) $\frac{1}{2}$ (d) $\frac{1}{6}$

55) If a fair coin is tossed 1000 time then the closest expecting number of appearing a head equals ....

(a) 196 (b) 503 (c) 600 (d) 999

56) Which of the following can be a probability of an event ?

(a) zero% (b) 1.2 (c) $\frac{17}{16}$ (d) 101%

57) A die is thrown one time, then the probability of appearing the number 5 equals ....

(a) zero (b) $\frac{1}{6}$ (c) $\frac{5}{6}$ (d) 1

58) A coin is tossed 1000 times, then the closest number expected for appearing the head equals.

(a) 496 (b) 503 (c) 600 (d) 999

59) If the probability that the pupils solve the problem is 0.7 then the number of problems expected to be solved from the same kind from 20 problems equals.

(a) 7 (b) 10 (c) 14 (d) 20

A card is drawn randomly from 50 cards numbered from 1 to 50. Find the probability that the number on the drawn card is ....

First : divisible by 10 Second : divisible by 11

Third : divisible by 10 or 11 Fourth : not a perfect square

....

....

....

....

....

....

....

....

....

....

[1] ⇨ Complete:

(1) {-11} ...... Z^+

(2) Z = Z^- ∪ .... ∪ ....

(3) $Z^+ \cap Z^-$ = ...

(4) Z = N ∪ ......

(5) Z – N = ...

(6) If: a ∈ {2 , -3} ∩ {-2, -3}, then a = ...

(7) (-3) × [2 + (-5)] = ...

(8) $(-119)^0 + (119)^0$ = ...

(9) $(-1)^{114} + (-1)^{113}$ = ...

(10) 5 - |-5| = ...

(11) $3^2 + 3^2 + 3^2$ = ...

(12) $2^8 \div 2^2$ = ...

(13) $3^6 \times 3 = 3^{\cdots}$

(14) 15 – (-13) = ...

(15) The additive inverse of zero is ....

(16) The total area of a cube of edge length 4 cm = ... cm^2

(17) The sample space of tossing a coin once is ....

(18) If: |x| = 7, then x = ... or x = ...

(19) $\left|\frac{5-8}{3}\right|$ = ...

(20) If: 5 x = -35, then x = ...

(21) If: $x + 2 = |-9|$, then $x = ...$

(22) The height of the cuboid in which (its lateral area is 200 cm^2 and the dimensions of its base are 8 cm and 12 cm) equals .... cm

(23) The lateral area if the cuboid whose length is 7 cm, width is 3 cm and its height is 3 cm equals ....

(24) If the perimeter of one face of a cube is 16 cm, then its total area = ... cm^2

(25) The edge length of the cube whose total area is 600 cm^2 is ......

(26) A class of 50 pupils. If the probability of success for those pupils in the end year exam is 0.8, then the expected number for the pupils who will succeed = ...

(27) A fair die is thrown once, then the probability of appearing the number 5 is .....

(28) The set of all outcomes you can get in a random experiment are called ....

(29) The sum of the measures of angles accumulating around the centre of the circle is equal to ....°.

(30) The measure of the angle of the circular sector which represent a quarter of a circle = ...°.

(31) The probability of the sure (certain) event = ...

(32) The probability of the impossible event = ...

(33) If a regular die rolled once, then the probability of getting an odd number = ...

(34) If the probability that the pupil solve a problem is 0.8, then the number of problems expected to solved from the same kind from 20 problems = ...

(35) The sum of edge lengths of a cube equals 36 cm, then its lateral area equals ....

[2] ⇨ Use the properties of addition and multiplication to find:

(1) $15 + (-5) + (-15) + 9$ = ...

= ....

= ....

(2) $112 \times 164 + 112 \times (-64)$ = ...

= ....

= ....

(3) $125 \times (-32) \times 8$ = ...

= ....

= ....

[3] ⇨ Find the result of the following:

(1) $\frac{5^4 \times 5^5}{5^7}$ = ...

(2) $\frac{(-2)^4 \times (-2)^5}{(-2)^6 \times (-2)}$ = ...

(3) $\frac{9 \times 9^3}{9^4}$ = ...

[4] ⇨ Find the result of the following:

(2) If: a = 6, b = -4, c = 3, then find the value of $(a + b)^c$.
....

(3) **Calculate the surface area of a circle of radius length 7 cm. $\left(\pi = \frac{22}{7}\right)$ ....**

(4) **A circle of radius length 7 cm is divided into four equal circular sectors; calculate the surface area of each sector. $\left(\pi = \frac{22}{7}\right)$ ....**

(5) **A box contains 5 white balls, 3 blue balls and 7 red balls all of them are symmetric, a ball is selected, find the probability that the selected ball is:**

a. Green ....

b. Red ....

c. Not blue ....

d. White or blue ....

(6) **A fair die is thrown once, find the probability of appearing on the upper face:**

a. A number greater than 4 ....

b. A number smaller than 4 ....

c. An even number ....

d. A number divisible by 5 ....

e. A number more than 6 ....

(7) **Calculate the lateral area and the total area of a cuboid if its base is a square of side length 6 cm and its height is 10 cm.**

(8) **The sum of the edge lengths of a cube is 60 cm, find:**

a. The edge length of the cube.

b. Its lateral area.

c. Its total area.

(9) A cuboid whose dimensions of its base are 7 cm and 3 cm and its lateral area equals 160 cm^2 find its height.

(10) A cuboid, its length is 6 cm, its width 4 cm and its height is 8 cm. Find its lateral area.

(11) A cuboid whose total area = 132 cm^2 and its lateral area = 112 cm^2 find the area of its base.

[5] ⇨ Find the solution set of the following equations:

(1) $3x + 5 = 20$, $x \in Z$

....
....
....
....

(2) $2x - 3 = 11$, $x \in Z$

....
....
....
....

[6] ⇨ Circular sectors (pie charts):

(1) The following table shows the percentages of the production of a factory of house electrical sets:

The kind of set	Washing machine	Heater	Oven	Mixture
The percentage	30%	15%	40%	....

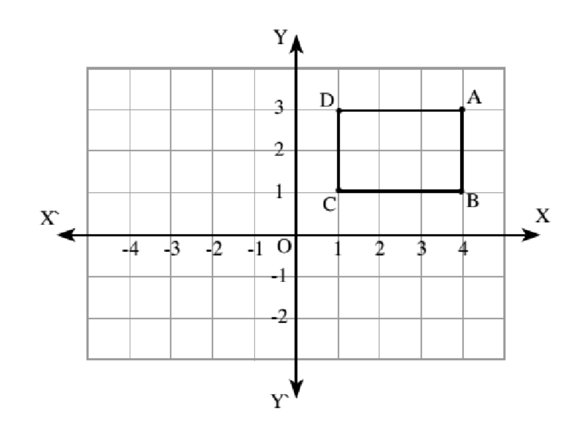
(a) Complete the table.

(b) Represent these data by pie chart.

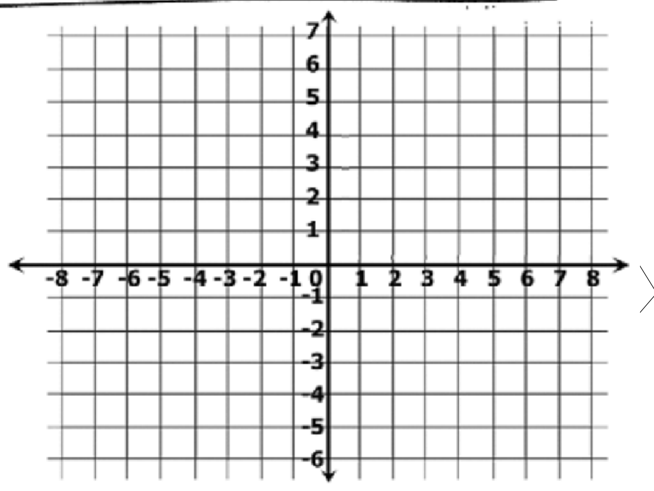
In the cartesian co ordinates plane the rectangle ABCD where where

A (4 , 3) , B (4 , 1) , C (1 , 1) , D (1 , 3)

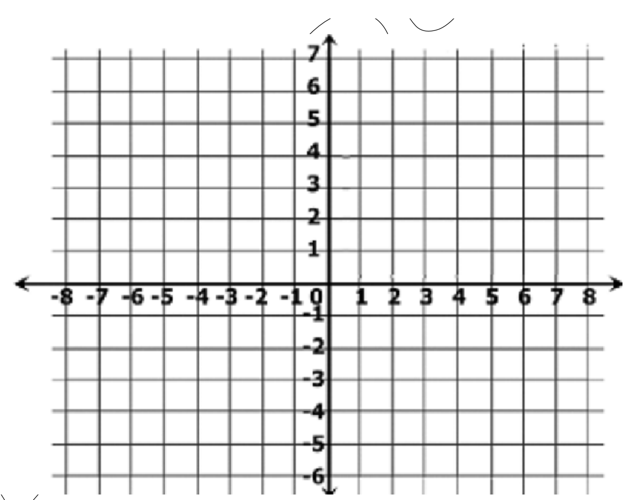
Find its image by the translation (X - 2, Y - 3)



On a square lattice , draw $\overline{AB}$ where A (2 , 3) and B (4 , 1) , then draw the image of $\overline{AB}$ by the translation $(x , y) \longrightarrow (x + 3 , y + 2)$



Draw Δ ABC , where A (1 , 1) , B (– 3 , – 1) and C (0 , – 5) then determine graphically its image by translation (5 , 0)



Find the S.S. of each of the following inequalities , then represent the S.S. on the number line :

a $x - 3 < 1$ where $x \in \mathbb{N}$ ....

....

....

b $x + 2 > 5$ where $x \in \mathbb{N}$ ....

....

....

d $4k \geq -16$ where $k \in \mathbb{N}$ ....

....

....